

CLAIMS

What is claimed is:

1. A method for processing an application identifier (AID) for an application installed on a smart card, said AID comprising a registered application provider identifier (RID), the method comprising:

determining the RID for an application from the AID of the application;

generating an identifier for a network resource from the RID;

transmitting a request to the network resource using said identifier; and

receiving a response to said request, said response comprising material for use in

handling the application on the smart card.
2. The method of claim 1, wherein said network resource identifier comprises a Universal Resource Locator (URL).
3. The method of claim 2, wherein said URL identifies a resource on the Internet.
4. The method of claim 1, wherein said determining the RID comprises extracting the RID from a predetermined location within the AID.
5. The method of claim 1, wherein generating a network resource identifier comprises forming the network resource identifier from first and second address portions, wherein said first address portion comprises a predetermined value, and said second address portion is dependent upon the determined RID.

6. The method of claim 5, wherein said first address portion corresponds to a network domain, and said second address portion corresponds to one or more input parameters for transmission to the network domain.
7. The method of claim 6, wherein said network resource identifier is generated by combining a first fixed address portion representative of a search site with a second variable address portion dependent upon the determined RID, wherein the second variable address portion forms a search string for input to the search site.
8. The method of claim 1, wherein generating the network resource identifier from the RID comprises transforming a binary representation of the RID into a non-binary representation.
9. The method of claim 8, wherein said non-binary representation comprises a string representation.
10. The method of claim 1, wherein generating a network resource identifier comprises using a lookup table that maps RID to network resource identifier.
11. The method of claim 10, wherein generating a network resource identifier comprises: accessing a local lookup table that maps selected RIDs to corresponding network resource identifiers, and using a mapping from this table to generate the network

resource identifier if the determined RID matches one of the RIDs in the table;

and

if no matching RID in the table is found, accessing a remote database that maps

RIDs to corresponding network resource identifiers, wherein said generated

network resource identifier comprises the address of the remote database in

combination with the RID to be matched.

12. The method of claim 11, further comprising operating said local lookup table as a cache of the remote database.
13. The method of claim 1, wherein the response to said request comprises or identifies code for use in decoding the AID of the application.
14. The method of claim 13, further comprising installing said code in the terminal to perform said transaction with the application.
15. The method of claim 1, wherein said network resource identifier represents a fully qualified class name for a class.
16. The method of claim 15, further comprising examining to see if the class is already loaded, and if so, not transmitting said request.

17. The method of claim 15, further comprising accessing the class in accordance with the classpath definitions.
18. The method of claim 13, wherein said code is provided in the form of a Java application descriptor file.
19. The method of claim 1, wherein the response to said request comprises a URL denoting a service or facility for use in interacting with the application on the smart card.
20. The method of claim 1, wherein the response to said request comprises or identifies contractual material relating to the application on the smart card.
21. The method of claim 1, wherein said request incorporates the AID for the application.
22. The method of claim 21, wherein the response to the request is dependent upon a proprietary application identifier extension (PIX) portion of the AID.
23. The method of claim 1, further comprising receiving the AID for the application on the smart card at a terminal during a session with said smart card, wherein said steps of determining, generating, transmitting and receiving a response are performed by said terminal.

24. The method of claim 23, wherein there are multiple applications on the smart card, each application having its own respective AID which is received on the terminal from the smart card, and wherein determining the RID, generating a network resource identifier from the RID, transmitting a request to said network resource identifier and receiving a response, are performed separately for each received AID.
25. The method of claim 24, wherein the responses to the requests received at the terminal for the multiple applications are used in determining which of said multiple applications on the smart card is to be used in interacting with the terminal.
26. Apparatus for processing an application identifier (AID) for an application installed on a smart card, said AID comprising a registered application provider identifier (RID), wherein the apparatus is operable to determine the RID for an application from the AID of the application and to generate an identifier for a network resource from the RID, said apparatus comprising a network interface for transmitting a request to said network resource using said identifier and for receiving a response to said request, wherein said response comprises material for use in handling the application on the smart card.
27. The apparatus of claim 26, wherein the network resource identifier is formed from first and second address portions, wherein said first address portion comprises a

predetermined value, and said second address portion is dependent upon the determined RID.

28. The apparatus of claim 27, wherein said first address portion corresponds to a network domain, and said second address portion corresponds to one or more input parameters for transmission to the network domain.
29. The apparatus of claim 27, wherein said network address is formed from a first fixed address portion representative of a search site and a second variable address portion that is dependent upon the determined RID, wherein the second variable address portion represents a search string for input to the search site.
30. The apparatus of claim 26, wherein the network resource identifier is generated by transforming a binary representation of the RID into a non-binary representation.
31. The apparatus of claim 30, wherein said non-binary representation comprises a string representation.
32. The apparatus of claim 26, further comprising a lookup table that maps RID to network resource identifier.
33. The apparatus of claim 26, wherein the response to said request comprises or identifies code for use in decoding the AID of the application.

34. The apparatus of claim 26, wherein said network resource identifier represents a fully qualified class name for a class.
35. The apparatus of claim 26, wherein said request incorporates the AID for the application.
36. The apparatus of claim 35, wherein the response to the request is dependent upon a proprietary application identifier extension (PIX) portion of the AID.
37. The apparatus of claim 26, wherein there are multiple applications on the smart card, each application having its own respective AID which is received from the smart card, and wherein responses to requests for the multiple applications are used in determining which of said multiple applications on the smart card is to be launched.
38. Apparatus for processing an application identifier (AID) for an application installed on a smart card, said AID comprising a registered application provider identifier (RID), the apparatus comprising:
- means for determining the RID for an application from the AID of the application;
 - means for generating an identifier for a network resource from the RID;
 - means for transmitting a request to said network resource using said identifier; and
 - means for receiving a response to said request, said response comprising material for use in handling the application on the smart card.

39. A computer program product comprising instructions on a medium, wherein said instructions when loaded into a machine cause the machine to process an application identifier (AID) for an application installed on a smart card by:
- determining a registered application provider identifier (RID) for an application from the AID of the application, wherein said RID is included in the AID;
- generating an identifier for a network resource from the RID;
- transmitting a request to said network resource using said identifier; and
- receiving a response to said request, said response comprising material for use in handling the application on the smart card.
40. The computer program product of claim 39, wherein said network resource identifier comprises a Universal Resource Locator (URL).
41. The computer program product of claim 40, wherein said URL identifies a resource on the Internet.
42. The computer program product of claim 39, wherein said determining the RID comprises extracting the RID from a predetermined location within the AID.
43. The computer program product of claim 39, wherein generating a network resource identifier comprises forming the network resource identifier from first and second

address portions, wherein said first address portion comprises a predetermined value, and said second address portion is dependent upon the determined RID.

44. The computer program product of claim 43, wherein said first address portion corresponds to a network domain, and said second address portion corresponds to one or more input parameters for transmission to the network domain.
45. The computer program product of claim 44, wherein said network resource identifier is generated by combining a first fixed address portion representative of a search site with a second variable address portion dependent upon the determined RID, wherein the second variable address portion forms a search string for input to the search site.
46. The computer program product of claim 39, wherein generating the network resource identifier from the RID comprises transforming a binary representation of the RID into a non-binary representation.
47. The computer program product of claim 46, wherein said non-binary representation comprises a string representation.
48. The computer program product of claim 39, wherein generating a network resource identifier comprises using a lookup table that maps RID to network resource identifier.

49. The computer program product of claim 48, wherein generating a network resource identifier comprises:
- accessing a local lookup table that maps selected RIDs to corresponding network resource identifiers, and using a mapping from this table to generate the network resource identifier if the determined RID matches one of the RIDs in the table;
- and
- if no matching RID in the table is found, accessing a remote database that maps RIDs to corresponding network resource identifiers, wherein said generated network resource identifier comprises the address of the remote database in combination with the RID to be matched.
50. The computer program product of claim 49, wherein the AID is further processed by operating said local lookup table as a cache of the remote database.
51. The computer program product of claim 39, wherein the response to said request comprises or identifies code for use in decoding the AID of the application.
52. The computer program product of claim 51, wherein the AID is further processed by installing said code in the terminal to perform said transaction with the application.
53. The computer program product of claim 39, wherein said network resource identifier represents a fully qualified class name for a class.

54. The computer program product of claim 53, wherein the AID is further processed by examining to see if the class is already loaded, and if so, not transmitting said request.
55. The computer program product of claim 53, wherein the AID is further processed by accessing the class in accordance with the classpath definitions.
56. The computer program product of claim 51, wherein said code is provided in the form of a Java application descriptor file.
57. The computer program product of claim 39, wherein the response to said request comprises a URL denoting a service or facility for use in interacting with the application on the smart card.
58. The computer program product of claim 39, wherein the response to said request comprises or identifies contractual material relating to the application on the smart card.
59. The computer program product of claim 39, wherein said request incorporates the AID for the application.

60. The computer program product of claim 59, wherein the response to the request is dependent upon a proprietary application identifier extension (PIX) portion of the AID.
61. The computer program product of claim 39, wherein an AID is further processed by receiving the AID for the application on the smart card at a terminal during a session with said smart card, wherein said steps of determining, generating, transmitting and receiving a response are performed by said terminal.
62. The computer program product of claim 61, wherein there are multiple applications on the smart card, each application having its own respective AID which is received on the terminal from the smart card, and wherein determining the RID, generating a network resource identifier from the RID, transmitting a request to said network resource identifier and receiving a response, are performed separately for each received AID.
63. The computer program product of claim 62, wherein the responses to the requests received at the terminal for the multiple applications are used in determining which of said multiple applications on the smart card is to be used in interacting with the terminal.

64. A server for processing an application identifier (AID) for an application installed on a smart card, said AID comprising a registered application provider identifier (RID), the server comprising:
- a network interface operable to receive the RID over a network from a terminal communicating with the smart card; and
 - a processing facility operable to identify material based on the received RID, wherein the identified material is returned to the terminal.
65. A computer program product comprising instructions on a medium, wherein said instructions when loaded into a machine cause the machine to process an application identifier (AID) for an application installed on a smart card, said AID comprising a registered application provider identifier (RID), wherein the AID is processed by:
- receiving the RID over a network from a terminal communicating with the smart card;
 - identifying material based on the received RID; and
 - returning the identified material to the terminal.
66. The computer program product of claim 65, wherein receiving the RID comprises receiving the AID comprising the RID, and wherein the material is identified based on the received AID
67. The computer program product of claim 65, wherein the identified material comprises code.

68. The computer program product of claim 65, wherein the identified material is specified in terms of a network location, and wherein the identified material is returned to the terminal from said network location.